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400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER	
ALLISON, ANDRAE S	
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,773	OKAWA ET AL.	
	Examiner	Art Unit	
	Andrae S. Allison	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43 and 59-74* is/are rejected.

7)☐ Claim(s) *43-58* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/22/2003*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities:

The phrase “applied to an digital image” in claim 8, line 4, on page 98, should read “applied to a digital image” because the word ‘an’ should have been ‘a’ .

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 40 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 40 recites the limitation "the condenser" in lines 5-6 . There is insufficient antecedent basis for this limitation in the claim.

Claim 41 is rejected as incorporating the deficiencies of claim 40 upon which it depends.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 (b) that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 19, 20, 27-32, 33, 37-39 and 63-72 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanson et al (US Patent No.: 5,321,501).

As to independent claim 1, Swanson discloses an optical probe system (optical imaging system, column 1, lines 13-15) comprising: an optical probe (endoscope unit, see Fig 6) to be inserted into a body cavity (column 13, lines 66-67 and column 14, lines 1-21); a light source (12, short coherence light source, see Fig 1) that generates light which is irradiated to an object (26, sample, see Fig 1) (column 5, lines 44-46); a high-magnification observation unit (see Fig 6) incorporated in the distal section of the optical probe; an image digitization unit (50, A/D converter, see Fig 1) that digitizes a luminance signal produced by the high-magnification observation unit; an image parameter sampling unit (46, demodulator, see Fig 1.) that samples an image parameter

(e.g. the luminance for dynamic range compression, see column 6, lines 49-52) from an image; an optimization parameter calculation unit (86, logarithmic amplifier, see Fig 1) that calculates an optimization parameter on the basis of the image parameter; an image optimization unit (46, demodulator, see Fig 1) that optimizes an image according to the optimization parameter; an image display device (75, display, see Fig 1) on which an optimized image is displayed; and a digital image preservation (74, memory, see Fig 1) unit in which a digital image is preserved.

As to independent claim 67, all the limitation are discussed above except; a condenser that converges or emits light emanating from a light source included in the distal section of the optical probe; an optical scanning unit that scans a focal point on an object, at which the light is converged by the condenser, two-dimensionally in a direction orthogonal to the optical-axis directions of the condenser; a photo detector that detects light returning from the object; an image is displayed on the display device with at least part of an entire scanned range masked.

Swanson teaches a condenser (146 and 148, lenses see Fig 6) that converges or emits light emanating from a light source included in the distal section of the optical probe; an optical scanning unit (92, 98, 100, see Fig 6) that scans a focal point on an object, at which the light is converged by the condenser, two-dimensionally in a direction orthogonal to the optical-axis directions of the condenser (column 3, lines 23-28); a photo detector (52, see Fig

1) that detects light returning from the object; an image is displayed on the display device with at least part of an entire scanned range (note that before displaying the image , the dynamic range of the image is compressed, see column 8, lines 59-61).

As to independent claim 70, note the discussion of claim 1 above.

As to claim 20, Swanson teaches an optical scanning probe system wherein the image optimization unit and digital image preservation unit process time-sequentially consecutive images (see column 14, lines 53-57, where a depth scan is performed, thus time-sequentially consecutive images are process).

As to claim 27, Swanson teaches an optical scanning probe system, wherein a plurality of images is displayed on the same screen of the image display unit (see column 9, lines 18-21, where scan images are reproduced on a display).

As to claim 28, Swanson teaches an optical scanning probe system, wherein the plurality of images to be displayed is determined with a time instant at which an image is produced and an image parameter (see column 9, lines 45-50, where a scan is performed at a give time).

As to claim 29, Swanson teaches an optical scanning probe system, wherein the image parameter sampling unit samples a characteristic quantity from an image, and the image optimization unit concatenates a plurality of images, which is acquired temporally continuously, on the basis of the characteristic quantities sampled from the images so as to produce an image (see column 8, lines 64-67, where the dynamic range of images is compressed, and it is well know in the art that the dynamic range is the clipping of the grey level of an image to match an output device).

As to claim 30, Swanson teaches an optical scanning probe system, further comprising a depth change unit that shifts an imaged range in a depth direction, and an image acquisition unit that acquires time-sequential images while the depth change unit changes a depth of observation (column 14, lines 47-54).

As to claim 31, Swanson teaches an optical scanning probe system, wherein the digital image preservation unit simultaneously records an image, at least one of an image parameter (see column 15, where multiple scans and the average of the multiple scan is stored in memory).

As to claim 32, Swanson teaches an optical scanning probe system, wherein time-sequential images are acquired by varying the depth of observation

in order to produce a three-dimensional image (column 15, lines 21-26).

As to claim 33, note the discussion of claim 67 above.

As to claim 37, Swanson teaches an optical scanning probe system, wherein the light source is formed with a laser (18, aiming laser, see Fig 1).

As to claim 39, Swanson teaches an optical scanning probe system, wherein the condenser includes at least one lens that concentrates light on an object (e.g. 146, see Fig 6).

As to claim 63, Swanson teaches an optical scanning probe system, wherein the image digitization unit is an A/D converter (50, see Fig 1).

As to claim 64, Swanson does not teach an optical scanning probe system, wherein gradation permitted by the A/D converter is expressed with at least 8 bits. However, it would have been obvious that the A/D converter of Swanson is expressed with at least 8 bits so that the images collected by the probe can be properly displayed on a monitor.

As to claim 65, Swanson teaches an optical scanning probe system, wherein the digital image preservation unit is formed with a memory (74, see Fig 1) in which a digital signal is preserved.

As to claim 68, Swanson teaches n optical scanning probe system, wherein the optical scanning unit sweeps light to form a raster, and an image is displayed on the display device with a diagonal part of a scanned range masked (e.g. see scan pattern of Fig 8).

As to claim 69, Swanson teaches an optical scanning probe system, wherein an image is displayed on the display device with part of a field of view, which lies above an optical axis by a certain magnitude or more, masked (see column 15, lines 22-24).

As to claim 71, note the discussion of claim 1 above.

As to claim 72, Swanson teaches an optical scanning probe system, wherein the image preservation unit is an image preservation unit (74, memory, see Fig 1) in which a digital image is preserved.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

> be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 38 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US Patent No.: 5,321,501).

As to claim 38, Swanson teaches an optical scanning probe system, wherein the laser (see the discussion of claim 37 above), however does not mention where the laser is a semiconductor laser. However, it would have been obvious to have used a semiconductor laser in the optical imaging system of Swanson because semiconductor laser are used to generate analog signals or digital pulses for transmission through optical fibers (OFFICAL NOTICE).

As to claim 66, Swanson does not teach an optical scanning probe system, wherein the memory is a cine memory having a large storage capacity. However, it would have been obvious to have substituted the memory of Swanson with cine memory of large capacity because cine memory is well for it's use in medical devices (OFFICAL NOTICE).

8. Claims 2-13, 15-19 and 42-62 and 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US Patent No.: 5,321,501) in view of Takahashi (US Patent No.: 6,724,418).

As to independent claim 73, all the limitation are discussed above except: a display/preservation selection device for use in selecting or designating display/preservation parameters, which determine a method of displaying and preserving an image, on the image display device; and a control device (72, computer) that controls the image display device (see column 9, lines 13-17, where a computer controls the image display).

Swanson teaches and a control device (72, computer, see Fig 1) that controls the image display device (see column 9, lines 13-17, where a computer controls the image display) but does not mention a display/preservation selection device for use in selecting or designating display/preservation parameters, which determine a method of displaying and preserving an image, on the image display device. Takahashi discloses an electronic endoscope (column 1, line 6) that includes a display/preservation selection device (e.g. 21, keyboard, see Fig 1) for use in selecting or designating display/preservation parameters, which determine a method of displaying and preserving an image, on the image display. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the optical imaging system of Swanson to include the display/preservation selection device of Takahashi to manipulate objects on a display, furthermore display/preservation selection device, such as keyword or mouse, is well known in the art.

As to claim 2, Swanson discloses an image parameter but does not specifically mention an optical probe system wherein the image parameter is a

luminance parameter. Takahashi discloses an electronic endoscope (column 1, line 6) that includes wherein the image parameter is a luminance parameter (luminance value calculator, column 2, lines 11-12).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have added the luminance adjuster of Takahaski to the optical image system of Swanson to calculate the luminance value indicating the brightness of an object on the basis of the image pixel signals (column 2, lines 23-26)

As to claim 3, Takahashi teaches an optical scanning probe system, wherein the luminance parameter indicates maximum brightness or minimum brightness (column 2, lines 23-26).

As to claim 4, Takahashi teaches an optical scanning probe system, wherein before the image parameter sampling unit samples the image parameter, a noise is canceled (noise reduction; column 4, lines 5-6).

As to claim 5, Takahashi teaches the optical scanning probe system, wherein the luminance parameter indicates an average of the luminance values of all pixels (column 4, lines 19-22).

As to claim 6, Takahashi teaches an optical scanning probe system wherein the luminance parameter is provided as a histogram plotted based on

the luminance values of all pixels (column 4, lines 13-17).

As to claim 7, Neither Swanson or Takahashi teach an optical scanning probe system, wherein the luminance parameter-sampling unit samples a luminance signal using an analog electronic circuit. However, it would have been obvious to have the luminance parameter-sampling unit samples a luminance signal using an analog electronic circuit because a software module can be implemented as a hardware device or the reverse a hardware device can be implanted in software form.

As to claim 2, Takahashi teaches an optical scanning probe system wherein the luminance parameter sampling unit is realized with an algorithm that is programmed in a computer and that is applied to an digitized image (see column 4, lines 6-18, where the luminance parameter is applied to a digital image).

As to claim 9, Takahashi teaches an optical scanning probe system, wherein the image optimization unit is a luminance conversion unit that converts a luminance value (see column 4, lines 7-13, where a signal conversion circuit operates on a luminance signal).

As to claim 10, Takahashi teaches an optical scanning probe system, wherein the luminance conversion unit is realized with an algorithm that is

programmed in a computer and that is applied to a digitized image (note that the signal conversion circuit is applied to a digital image pixel signal, see column 7-9).

As to claim 11, Neither Swanson or Takahashi teach an optical scanning probe system, wherein the luminance parameter-sampling unit samples a luminance signal using an analog electronic circuit. However, it would have been obvious to have the luminance parameter-sampling unit samples a luminance signal using an analog electronic circuit because a software module be implemented as a hardware device or the reverse a hardware device can be implanted in software form.

As to claim 12, Swanson teaches an optical scanning probe system, wherein before the image digitization unit digitizes a luminance signal, a dynamic range compression unit compresses the dynamic range (column 8, lines 64-65).

As to claim 13, Swanson teaches an optical scanning probe system, wherein the compression of the dynamic range is achieved through logarithmic conversion (column 8, line 66).

As to claim 15, Swanson teaches an optical scanning probe system, wherein inverse transformation logarithmic conversion (column 8, line 66) is performed on an image digitized by the image digitization unit, and the image is

thus optimized.

As to claim 16, note the discussion above, Takahashi teaches an optical scanning probe system, wherein at least one of a luminance parameter and an optimization parameter is preserved together with a digitized image in the digital image preservation unit (see column 4, lines 18-24, where a luminance value and a reference value are stored in memory).

As to claim 17, Swanson teaches an optical scanning probe system, wherein the digitized image to be preserved is an image that has not yet been optimized (column 9, lines 12-13).

As to claim 18, Swanson teaches an optical scanning probe system, wherein the digitized image to be preserved is an image that has been optimized (column 16, lines 19-21).

As to claim 19, Takahashi teaches an optical scanning probe system, wherein the optimization parameter calculation unit calculates an optimization parameter using at least one of the past image parameter and a luminance parameter (see column 2, lines 26-29, where a light adjuster adjust the light radiating from an endoscope base on luminance value and a reference value).

As to claim 42, note the discussion of claim 73 above.

As to claim 59, Swanson teaches an optical scanning probe system, wherein together with an image displayed on the image display device, at least one of a normal endoscopic image (column 9, lines 14-16).

As to claim 60, Neither Swanson or Takahashi teach an optical scanning probe system, wherein the display/preservation selection device includes an input device used to designate the display/preservation parameters. However, it would have been obvious to have the display/preservation selection device includes an input device used to designate the display/preservation parameters so that that a user can manipulate text or object on a monitor and input devices such as keyboard is a well know in the art (OFFICAL NOTICE).

As to claim 61, Neither Swanson or Takahashi teach an optical scanning probe system wherein the input device is a keyboard whose keys can be pressed with a hand. However it would have been obvious that the computer 72, see Fig 1 of Swanson would include input device such as keyboard whose keys can be pressed with a hand so that a user can manipulate text or object on a monitor and keyboard is a well know input device in the art (OFFICAL NOTICE).

As to claim 62, Neither Swanson or Takahashi teach an optical scanning probe system wherein the input device is a mouse capable of being clicked or dragged with a hand or a trackball. However it would have been obvious that the

computer 72, see Fig 1 of Swanson would include input device such as the input device is a mouse capable of being clicked or dragged with a hand or a trackball so that a user can manipulate text or object on a monitor and a mouse is a well know input device in the art (OFFICAL NOTICE).

As to claim 74, Swanson teaches an optical scanning probe system, wherein the display/preservation parameters include at least one of: a parameter concerning timing of preservation, that is, at what timing an image displayed on the image display device should be preserved (column 15, lines 35-37).

9. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US Patent No.: 5,321,501) in view of Takahashi (US Patent No.: 6,724,418) further in view of Wong et al (US Patent No.: 6,594,036).

As to claim 14, Swanson does not teach an optical scanning probe system, wherein the compression of the dynamic range is achieved through gamma conversion. Wang teaches a signal processing circuit (column 1, lines 7-8) that includes wherein the compression of the dynamic range is achieved through gamma conversion (column 4, lines 37-39). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have added the signal processing circuit of Wang to the optical image system of Swanson as modified by Takahashi to optimize the dynamic range of a signal (column 4, lines

38-39) by coding and decoding luminance values in video or still image systems.

10. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US Patent No.: 5,321,501) in view of Saito et al (Pub No.: 2002/0196334).

As to claim 21, Swanson does not expressively disclose an optical scanning probe system, wherein the image optimization unit selects and displays an image that depicts an edge at a luminance level equal to or higher than a predetermined level. Saito discloses an endoscopic imaging system ([p][0002], lines 1-2) that includes wherein the image optimization unit selects and displays an image that depicts an edge at a luminance level equal to or higher than a predetermined level (see [p][0151], lines 1-9, where an image depicting a contour with a certain luminance level is displayed).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the optical imaging system of Swanson with the teaching of Saito as a part of endoscopic system for internal medicine in which a camera is mounted on a soft endoscope or electronic endoscope having an imaging device to insert into body cavity for assist in observation of object regions for various kinds of examination ([p][0167], lines 5-9 and [p][0004], lines 1-5).

As to claim 22, note the discussion above, Saito teaches an optical scanning probe system wherein the image optimization unit deals with a luminance parameter relative to a threshold value so as to detect an in-focus

image (note that when an image is depicted at an optimal luminance level, the image is in focus, see [p][0151], lines 1-9).

As to claim 23, note the discussion above Saito teaches, an optical scanning probe system wherein the image optimization unit deals with a value, which is calculated by integrating the luminance values of a high-frequency component of an image, relative to a threshold value so as to detect an image depicting a contour ([p][0152], lines 5-10).

As to claim 24, note the discussion above, Saito teaches an optical scanning probe system, wherein a method of detecting the high-frequency component is a differential ([p][0156], lines 5-10).

As to claim 25, note the discussion above, Saito teaches an optical scanning probe system, wherein only an image that depicts an edge at a luminance level equal to or higher than a predetermined level is preserved in the digital image preservation unit. (see [p][0155], lines 1-6, where the image depicting an edge is saved in memory).

As to claim 26, note the discussion above, Saito teaches an optical scanning probe system, wherein information concerning the presence or absence of an image that depicts an edge at a luminance level equal to or higher than a predetermined level is preserved in the digital image preservation unit

(see [p][0155], lines 1-6, where the image depicting an edge is saved in memory).

10. Claims 34-36 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (US Patent No.: 5,321,501) in view of Tearney et al (US Patent No.: 6,501,551)

As to claim 34, Swanson teaches an optical scanning probe system, further comprising an optical fiber (optical bundle made up of optical fibers, see Fig 6) over which the light emanating from the light source is introduced into the condenser, and a separator that separates the light returning from the object from the light path emanating from the light source, wherein: when the photo-detection device detects the light separated by the separator, the end of the optical fiber and the object have a confocal or near confocal relationship to each other and share the same focal point on the condenser (see Fig 2, where light passing through a lens converges on a sample),

However, Swanson does not disclose expressly a separator that separates the light returning from the object from the light path emanating from the light source. Tearney discloses a medical imaging system (column 1, lines 32-33) that includes a separator (6, beam divider, see Fig 6) that separates the light returning from the object from the light path emanating from the light source (column 4, lines 36-39).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to added the beam divider of Tearney to the optical imaging system of Swanson to divide the light from a source along a measuring arm and a reference arm and the light passing through the beam divider illuminate a sample or structure, the lights are recombined and the resulting radiation is processed to generate an image, which is then displayed for analysis (column 4, lines 40-55).

As to claim 35, Swanson teaches an optical scanning probe system, wherein the photo-detection device is formed with a photo detector (52, see Fig 1)

As to claim 36, Swanson does not teach an optical scanning probe system, wherein the photo-detection device is formed with a photomultiplier tube. However, it would have been obvious to have substituted the photo-detection device with a photomultiplier tube because a photomultiplier tubes are extremely sensitive detectors of light in the ultraviolet, visible and near infrared and have replace photo detectors in some medical imaging applications furthermore, photomultiplier tubes are well known in the art (OFFICIAL NOTICE).

As to claim 40, Swanson teaches an optical scanning probe system, wherein the light source is a low-coherent light source (12, see Fig 1), further

comprising: a splitter that splits light emanating from the light source into observation light that is routed to the condenser, and reference light; and a coupler (22, see Fig1) that couples light returning from the object and the reference light so as to complete interference, wherein: the photo detector (52, see Fig 1) detects the light coming from the coupler; and the signal processing unit samples an interference signal from a signal produced by the photo detector (see column 8, lines 57-61 where a demodulator compresses the dynamic range of an image signal).

However, Swanson does not disclose expressly a splitter that splits light emanating from the light source into observation light that is routed to the condenser, and reference light. Tearney discloses a medical imaging system (column 1, lines 32-33) that includes a splitter (6, beam divider, see Fig 6) that splits light emanating from the light source into observation light that is routed to the condenser, and reference light (column 4, lines 36-39).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to added the beam divider of Tearney to the optical imaging system of Swanson to divide the light from a source along a measuring arm and a reference arm and the light passing through the beam divider illuminate a sample or structure, the lights are recombined and the resulting radiation is processed to generate an image, which is then displayed for analysis (column 4, lines 40-55).

As to claim 41, Swanson teaches an optical scanning probe system,

wherein the optical path length for the observation light and the optical path length for the reference light agree with each other at a point near a point on which light is converged by the condenser (see Fig 2, where light passing through a lens converges on a sample).

Allowable Subject Matter

Claims 45-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made part of the record and not relied upon is considered pertinent to applicant's disclosure.

Rolland et al (US Patent No.: 6,141, 577) is cited to teach an optical coherence tomography and spectral interferometry imaging probe.

Toida (US Patent No.: 6,999,608) is cited to teach a compact imaging apparatus having an OCT function.

Muranishi et al (US Patent No.: 5,508,805) is cited to an optical scanning type tunneling microscope.

Gelikonov et al (US Patent No.: 6,608, 684) is cited to teach an optical coherent tomography apparatus.

Swanson et al (US Patent No.: 5,459,570) is cited to teach a method and apparatus for performing optical measurements.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571) 272-7695.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

January 24, 2007

A.A.

JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER